

JUBILEE RUDDER - TIMBER CONSTRUCTION

Materials:

Celery-Top Pine (seasoned)		
Stock	150 x 38	1/1200 long
Blade (i)	150 x 38	1/850 long
Blade (ii)	150 x 38	1/650 long
Blade (iii)	50 x 38	1/350 long

Alternatively use the same 150 x 38 stock, but a blade made up of a 200 x 38 x 850, and a 150 x 38 x 600. Then the 50 x 38 is not needed.

Cheeks	200 x 18	2/600 long
Tiller	100 x 38	1/1250 long

Cord to bind tiller end

Brass rod 3/16" diam. or metric equivalent 6/44mm lengths

Bronze gudgeon and pintle fittings

Monel or 316 stainless woodscrews

316 Stainless 3/8" diam hex. head bolt 75 long, 2 washers and wing-nut

Construction:

Clean up all blade and stock edges, and match the mating edges. Arrange pieces so that the end grain is alternated, and, if possible, the longitudinal grain for fair planing. Using Araldite, need two level plastic spoons of A and of B. Apply to one surface, scrape off and reapply to the other matching surface. Sash-crimp the edges of the stock and blades together, remembering that the lower part of the stock (say to 28mm) and blades will be faired, and that the rear of the rudder is also faired (say to 15mm). Use four G cramps laterally to prevent torsional slip. Use newspaper or similar to prevent glue from pooling between cramps and work.

Allow the glue to dry as directed, and then remove the clamps. Mark out the blade profile, and jigsaw the profile. Keep the offcuts for testing the glue-joint strength. Clean up the external edges with a plane and spokeshave.

Lie the blade and stock on a flat surface, and with a pen arranged horizontally on a suitable depth block, mark out a plane near the midchord depth by sliding the block and pen around the complete profile. Mark out a stock thickness of 34mm fore and aft, and mark a taper to 26 or 28 mm to the bottom of the rudder.

Now plane the stock to that thickness, and roughly fair the blade with an electric planer. Be careful that the stock is not faired above a line 570mm below the top of the stock.

Prepare the cheek pieces by reducing their thickness to 15mm, and after arranging their end-grain to be opposite and their longitudinal grain to suit the stock, mark a radius of 570mm from the forward top corners. Jigsaw and smooth the radius and the forward edges.

Draw the tiller profile and carefully measure the tiller socket angles, and the depths of the tiller where it intersects the foreward and aft faces of the stock. Transfer the foreward tiller intersection depth to the top of the stock,

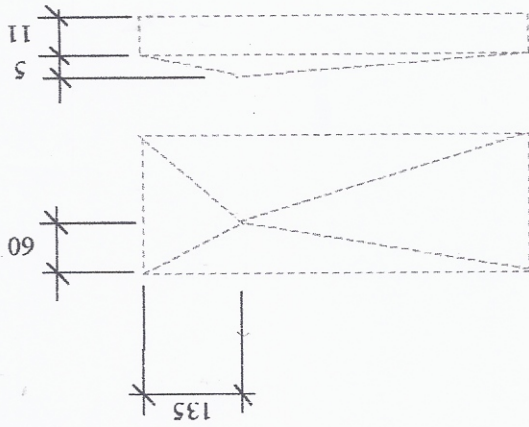
In the stock, drill six 3/16" holes to locate the cheek pieces, four holes below the tiller and two above. Lie the port cheek in position and drill matching 3/16" holes no more than 5mm deep in the cheek by facing the drill bit to port. Remove the port cheek and repeat the process with the starboard cheek, this time drilling from port to starboard.

Separate the stock and cheek piece, and carefully saw the tiller socket in the top of the stock. Insert the brass rods in the stock, allowing them to project five mm each side of it.

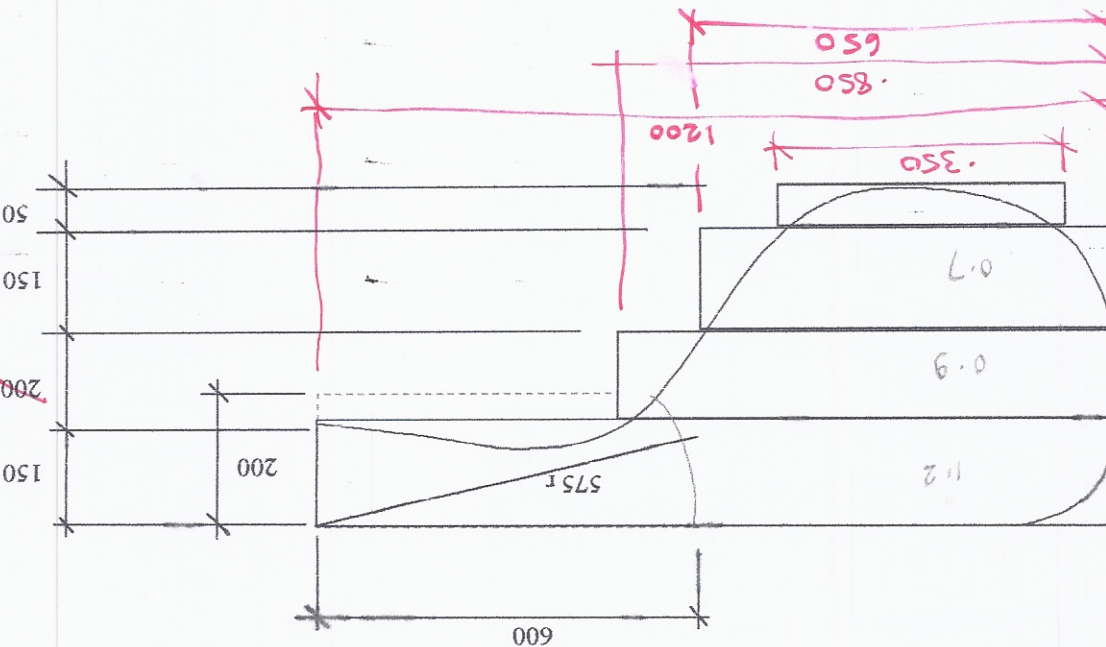
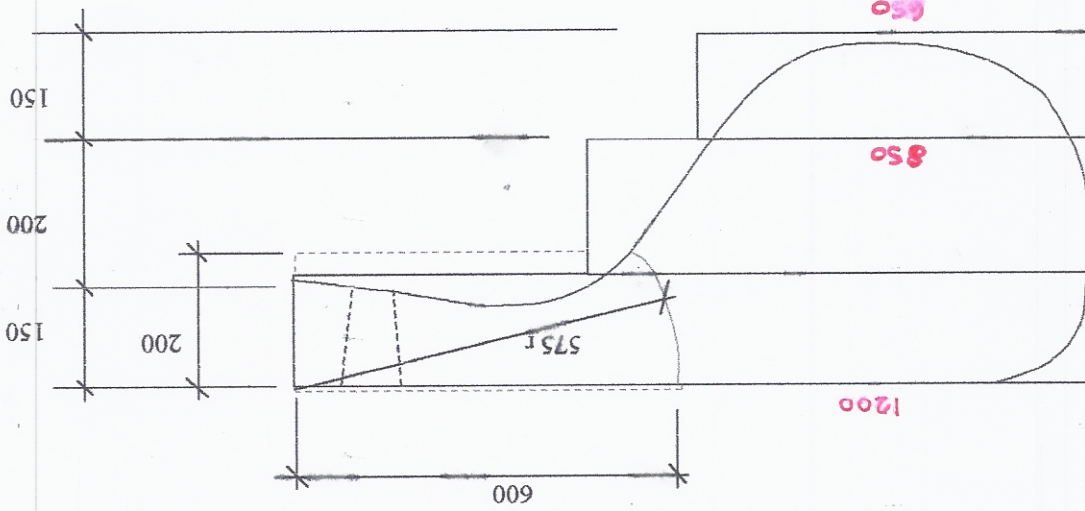
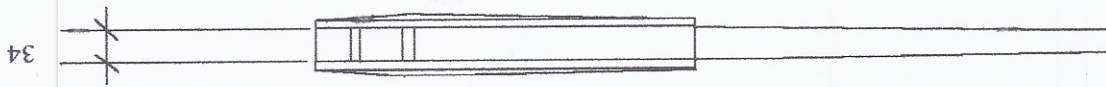
Shield from glue pools the inside surfaces of the cheeks and those of the stock that will form the tiller socket with masking tape. Similarly mask the face of the 570 mm radius of the cheeks and the faces of the blade where they intersect.

Use Araldite again, but three spoons of each tube, and glue and cramp the cheeks to the stock.

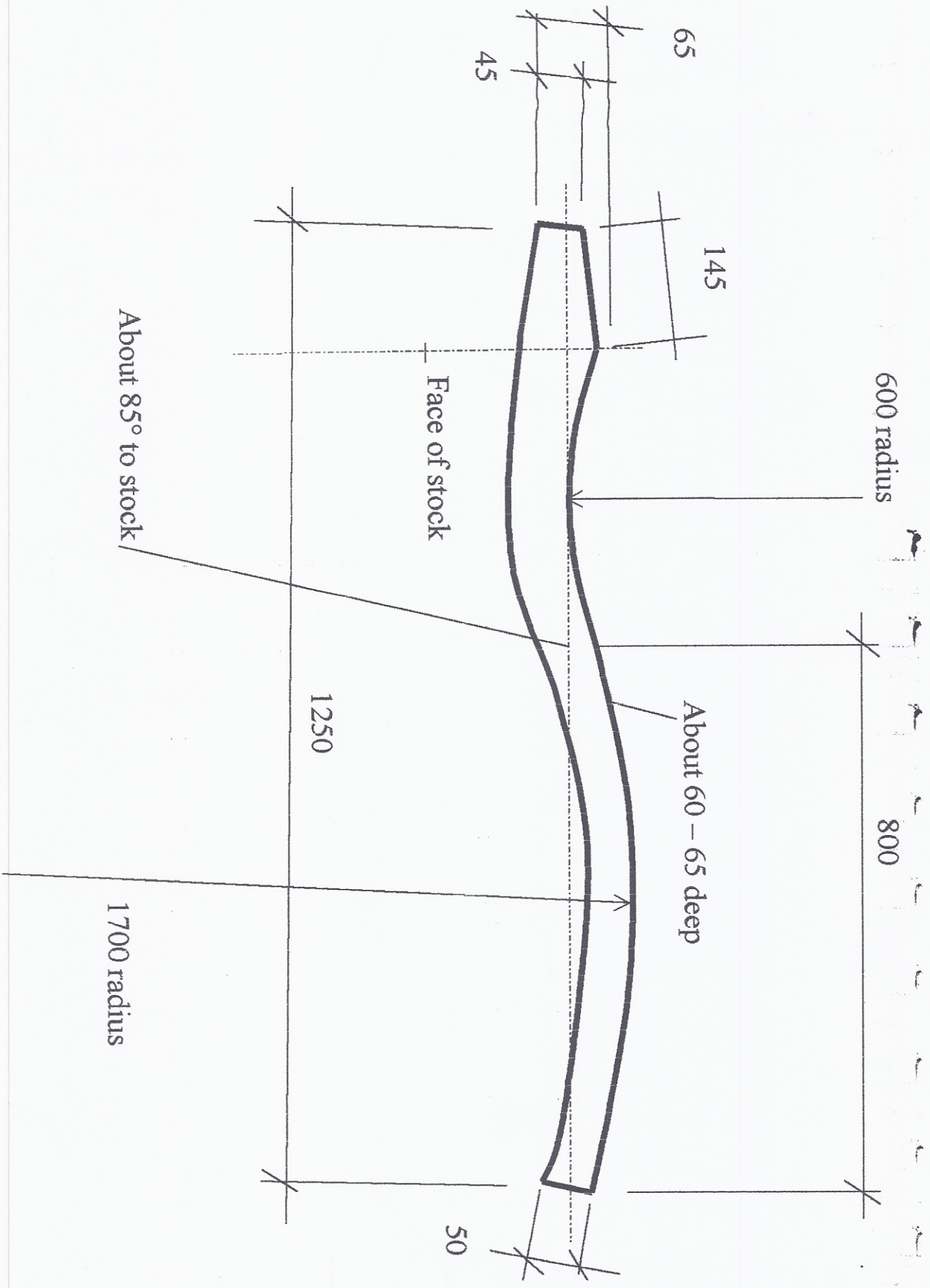
Allow the glue to dry and remove the cramps, cleaning out the masking tape from the intersection.

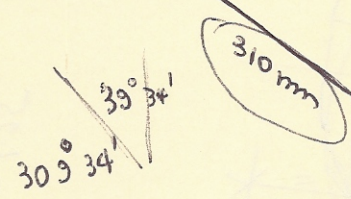
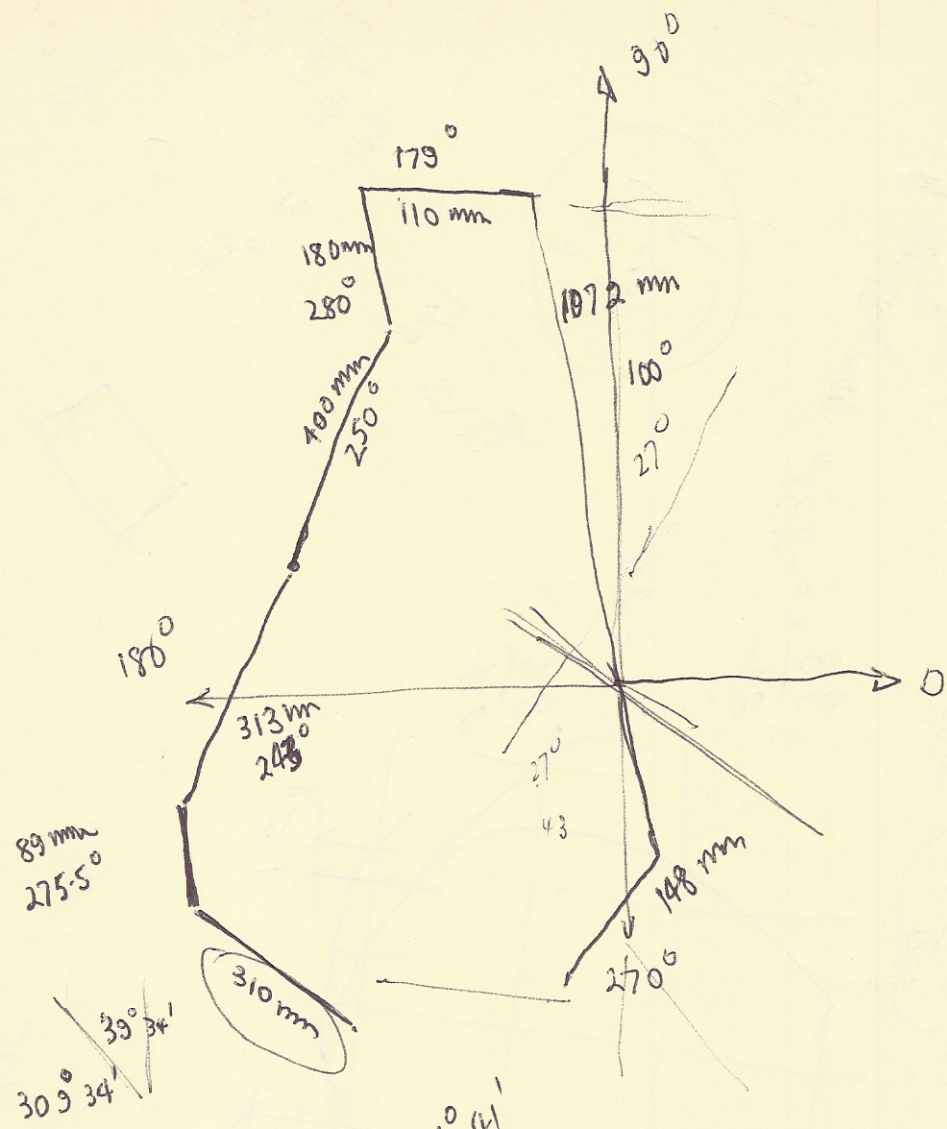


$100 \times 18 \times 2.4 \text{ m}$
 $150 \times 38 \times 2.4 \text{ m}$
 $150 \times 38 \times 1.5 \text{ m}$
 $150 \times 38 \times 2.4 \text{ m}$
 $150 \times 38 \times 2.4 \text{ m}$



$150 \times 38 \times 1.2 \text{ m}$
 $150 \times 38 \times 1.2 \text{ m}$
 $150 \times 38 \times 0.65 \text{ m}$

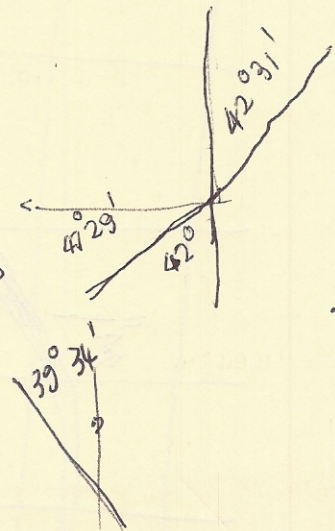




309.53°
 309.32°

$271^\circ 41'$
 $180^\circ 41'$
 $178^\circ 19'$
 178.316

227.483



KEVIN
FR

19 mm = 152.4

13" x 1 1/2" x 96"



150 x

150

200 x 20

48" x 8" x 1 1/8" 1 1/4"
30" x 8" x 1 1/8" 1 1/4"
24" x 8" x 1 1/8" 1 1/4"

150 x 38

get the plans.

2.375 x 25.4

- 762.0
- 152.4
- 304.8
- 457.2
- 609.6
- 762.0
- 914.4
- 1066.8
- 1219.2

Tiller

150 x 38 x 1200
 = 200 x 38 x 1200
 = 200 x 35 x 750
 150 x 38 x 500
 200 x 25 x 900

need 175 x 38 x 1200
~~175 x 38 x 800~~
~~175 x 38 x 600~~
~~175 x 25 x 900~~

Warner Redman

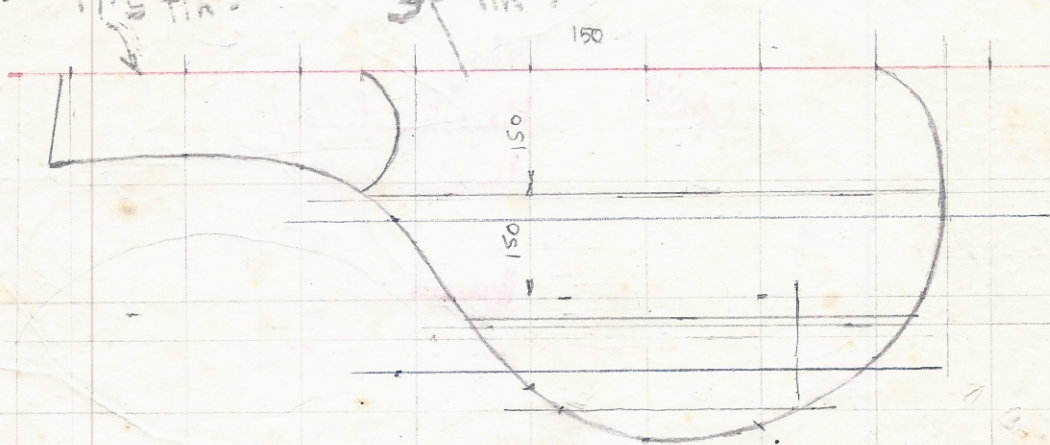
\$25



580 5611

17.5 fin.

35 fin.



175 x 38 x 1200; 900; 600; 600

1220
800
630

175 x 38
7 x 1 1/2

1 1/2 x 7

1220, 800, 630,